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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/813,492	03/21/2001	Mark A. Labow	4-31360A/USN	2101

1095 7590 10/22/2002

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EXAMINER

HOLLERAN, ANNE L

ART UNIT	PAPER NUMBER
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1642

DATE MAILED: 10/22/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/813,492

Applicant(s)

LABOW ET AL.

Examiner

Anne Holleran

Art Unit

1642

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 3-5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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### DETAILED ACTION

1. Applicant's election without traverse of Group 1, claims 1 and 2 in Paper No. 8 (filed July 30, 2002) is acknowledged.

Claims 1-5 are pending.

Claims 3-5, drawn to non-elected inventions, are withdrawn from consideration.

Claims 1 and 2 are examined on the merits.

### *Claim Rejections - 35 USC § 112*

2. Claims 1 and 2 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for methods of detecting breast tumors comprising using probes that comprise SEQ ID NO: 1 or probes that consist of fragments of SEQ ID NO: 2, does not reasonably provide enablement for the full scope of detecting any type of tumor, and methods that comprise providing probes that comprise fragments of SEQ ID NO: 1. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Factors to be considered in determining whether undue experimentation would be required to practice the full scope of the claimed inventions are: 1) quantity of experimentation necessary; 2) the amount of direction or guidance presented in the specification; 3) the presence or absence of working examples; 4) the nature of the invention; 5) the state of the prior art; 6) the

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relative skill of those in the art; 7) the predictability or unpredictability of the art; and 8) the breadth of the claims. See *Ex parte Forman*, 230 USPQ 546, BPAI, 1986.

Claims 1 and 2 are drawn to methods for detecting any type of tumor. The methods of claims 1 and 2 comprise providing a probe that comprises either the nucleic acid sequence of SEQ ID NO: 1, or comprises a fragment of SEQ ID NO: 1. Thus, to the extent the claims read on methods of detection using probes that comprise a fragment of SEQ ID NO: 1, the specification fails to provide adequate guidance for how to make and use the claimed methods.

The specification teaches one example of a probe that may be used in a method for the detection of breast tumors. The probe comprises the sequence of SEQ ID NO: 1 or consists of fragments of SEQ ID NO: 1. The specification fails to teach any other examples of useful probes, and fails to teach that detection of hybridizing nucleic acids to these probes is associated with any type of cancer. Thus, the scope of the teachings of the specification is not commensurate in scope with that of the claims. Furthermore, the specification fails to provide guidance for how to make other useful probes, and fails to show that differential detection of hybridizing nucleic acids in breast tumors may be extrapolated to methods for the detection of any type of tumor. Because the relationship between a cancers and the expression of mRNA species is not predictable, it is not possible for one of skill in the art to extrapolate the findings in the specification concerning the detection of breast tumors with the ability to detect tumors other than breast tumors. Thus, the specification merely presents of wish or hope to establish such a relationship, but fails to provide a reasonable expectation that claimed methods would be useful the detection of any tumor other than a breast tumor.

Because of the broad scope of the claims that is not commensurate in scope with that of the disclosure of the specification, and in view of the unpredictability of tumor diagnostics, undue experimentation on the part of one skilled in the art would be necessary to practice the full scope the claimed invention.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being rejected by Papsidero (U.S. 6,306,653; issued Oct. 23, 2001; filing date Sep. 3, 1998).

Papsidero teaches a nucleic acid sequence (SEQ ID NO: 11) that comprises a fragment of SEQ ID NO: 1, where the fragment is at least about 10 nucleotides (see enclosed alignment). Papsidero teaches the use of the nucleic acid probes from the nucleic acid sequence that may be used in the detection of breast cancer (col. 3, lines 6-25, col. 18, line 58- col. 20, line 28, col. 31, line 64 – col. 33, line 66). Thus, Papsidero teaches methods that are the same as that claimed.

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*Conclusion*

No claim is allowed.


Any inquiry concerning this communication or earlier communications from the Office should be directed to Anne Holleran, Ph.D. whose telephone number is (703) 308-8892.

Examiner Holleran can normally be reached Monday through Friday, 9:30 am to 2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Caputa, Ph.D. can be reached at (703) 308-3995.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist at telephone number (703) 308-0196.

Anne L. Holleran  
Patent Examiner  
October 21, 2002

  
ANTHONY G. CAPUTA  
SUPERVISOR, PATENT EXAMINER  
TECHNOLOGY CENTER 1800

## ORIGIN

Query Match 17.9%; Score 361.8; DB 6; Length 472;

Best Local Similarity 99.2%; Pred. No. 3.7e-73;

Matches 374; Conservative 0; Mismatches 2; Indels 1; Gaps 1;

1633 agcgggtggtccagagatgctctgaggtgataatgagacacagagagcagcagc 1692

471 AGCGGTGTGTGGCAGAGATGCTTGAGGTGTAATGGACACAGAGGCACTGAGTC 412

1693 tccataggttaaaty-ccacaaaactggtccttgcctatataccctcattgactt 1751

411 TCCATAGGTGTTAAATGGCCCAAACTGGCTTGGCTTAATGCCCTCATGATTTT 352

1752 agcattatattatattcctccgacattctgcagccttatttatttccactt 1811

351 GGCATTTAATTTATTTATTTTCTGACATTTCTGCAAGCTTTGATTTATTTCCACTT 292

1812 tatagatgaggaatltgaggtccttgaaggttaaatgacttgcaggtcacagga 1871

291 TATAGATGAGGAATTTGAGGCTCTGAGGTAAATGACTTGGCCAGTCACAGAGAA 232

1872 gtggcagagacagcttlttaataagaaaataataataataatgagagtaact 1931

231 GTGGCAGAGACAGCTTTTAAATGAGAAAATTAATTAATTAATGAGAGTACT 172

1932 taaatattataacacaaatlttaataatlaaacgttgataacacataataaa 1991

171 TAAATATTATTAATTAACCAATTTTAATTAATTAATTAATTAATTAATTAATAA 112

1992 gttaagataccaaaaa 2008

111 GTTAAGATACCAAAACA 95

RESULT 10

AX334850/c AX334850 472 bp DNA linear PAT 09-JAN-2002

DEFINITION Sequence 5359 from Patent WO0194629.

ACCESSION AX334850

VERSION AX334850.1 GI:18125569

KEYWORDS

SOURCE human.

ORGANISM Homo sapiens

REFERENCE 1 (sites)

Young, P.E., Augustus, M., Carter, K.C., Ebner, R., Endress, G.,

Horrigan, S., Soppet, D.R. and Weaver, Z.

Cancer gene determination and therapeutic screening using signature

gene sets

Patent: WO 0194629-A 5359 13-DEC-2001;

Avalon Pharmaceuticals (US)

Location/Qualifiers

1. 472

/organism="Homo sapiens"

/db\_xref="taxon:9606"

BASE COUNT 148 a 74 c 79 g 170 t 1 others

ORIGIN

Query Match 17.9%; Score 361.8; DB 6; Length 472;

Best Local Similarity 99.2%; Pred. No. 3.7e-73;

Matches 374; Conservative 0; Mismatches 2; Indels 1; Gaps 1;

1633 agcgggtggtccagagatgctctgaggtgataatgagacacagagagcagcagc 1692

471 AGCGGTGTGTGGCAGAGATGCTTGAGGTGTAATGGACACAGAGGCACTGAGTC 412

1693 tccataggttaaaty-ccacaaaactggtccttgcctatataccctcattgactt 1751

411 TCCATAGGTGTTAAATGGCCCAAACTGGCTTGGCTTAATGCCCTCATGATTTT 352

QY 1752 agcattatatttatttctcctgacattctgcagccttgcagagcttgattatattccactt 1811

DB 351 GGCATTTAATTTATTTATTTTCTGACATTTCTGCAAGCTTTGATTTATTTCCACTT 292

QY 1812 tatagatgaggaatltgaggtccttgaaggttaaatgacttgcaggtcacagga 1871

DB 291 TATAGATGAGGAATTTGAGGCTCTGAGGTAAATGACTTGGCCAGTCACAGAGAA 232

QY 1872 gtggcagagacagcttlttaataagaaaataataataataatgagagtaact 1931

DB 231 GTGGCAGAGACAGCTTTTAAATGAGAAAATTAATTAATTAATGAGAGTACT 172

QY 1932 taaatattataacacaaatlttaataatlaaacgttgataacacataataaa 1991

DB 171 TAAATATTATTAATTAACCAATTTTAATTAATTAATTAATTAATTAATAA 112

QY 1992 gttaagataccaaaaa 2008

DB 111 GTTAAGATACCAAAACA 95

RESULT 11

AR174333/c AR174333 311 bp DNA linear PAT 17-DEC-2001

DEFINITION Sequence 11 from patent US 6306653.

ACCESSION AR174333

VERSION AR174333.1 GI:17914653

KEYWORDS

SOURCE Unknown.

ORGANISM Unknown.

REFERENCE 1 (bases 1 to 311)

Papadimitriou, L.D., Dyster, L.M. and Frustaci, J.M.

Detection and treatment of breast disease

Patent: US 6306653-A 11 23-OCT-2001;

Location/Qualifiers

1. 311

/organism="unknown"

BASE COUNT 65 a 77 c 72 g 95 t 2 others

ORIGIN

Query Match 15.0%; Score 302; DB 6; Length 311;

Best Local Similarity 99.3%; Pred. No. 2.1e-59;

Matches 302; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

208 agcactacttcccatctgctcccaagctgttgacagaggttccatcattatccagaag 267

DB 311 ACCCATACTTCCCATTTGCCCTCAGCTGTGCGACGAGGTTTCACATATATTTCCAGAA 252

QY 268 gtccctggaagagtgatgataatgctgcagatccagagagctgattgaggttgcattggc 327

DB 251 GCTCTGGAAAGAGTATGTGTGCGCATCCAGAGAGCTGATGGGATGTGACTGGC 192

QY 328 tgcctgcatccttcatgtcagcgcagagaatctgtgtaagcccgcaaacatctgt 387

DB 191 TCGTGTCACTCCTTCAATGTCAGCGCAGAAATCTGTGTCAAGCCGCAACAACATACTGT 132

QY 388 taagcagtgatgataagtgcaagctgccaagaaaatgttaagaaatgttgcacag 447

DB 131 TAGCATGTGATGAAAGTGTCAAGCTGCGCAANAAATGTAAAGAAATGTGTCACAG 72

QY 448 gaagaacacatggaagaggaagcagtaacagggcacatcaggggaacacagaaacata 507

DB 71 GAAGAAACACCATGCGCAAGAGAAACAGTACAGGACATCAGGGGAAACACGAAACATA 12

QY 508 cggc 511

DB 11 CGGC 8

RESULT 12